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TAGS: <u>SENV</u> <u>ENRG TSPL</u> <u>TRGY</u> <u>KSCA KGHG</u> <u>IN</u>
SUBJECT: S&T ADVISER TO SECSTATE DISCUSSES INDO-US SCIENTIFIC
COLLABORATIONS AND INDIA'S FUTURE S&T INVESTMENTS WITH SECRETARY,
DEPARTMENT OF SCIENCE AND TECHNOLOGY

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SUMMARY: Dr. Nina Fedoroff, S&T Adviser to the U.S. Secretary of State and the AID Administrator, met with Dr. Thirumalachari Ramasami, Secretary, Department of Science and Technology (DST), Ministry of S&T, Government of India (GOI) during her visit to India in February 2008 to assess the status of Indo - U.S. S&T collaborations and discuss India's future plans in S&T R&D. Dr. Ramasami observed that the Indo-US S&T Forum (IUSSTF) is performing well within its limited scope and funding. He suggested that for more productive Indo-US R&D collaborations and to involve industry, the new S&T Commission should have a broader mandate with higher level of funding. He highlighted how India is trying to balance between accelerated growth and inclusive growth. India has already budgeted funds worth USD 3.5 billion for capacity building and creation of new centers of excellence during the eleventh five-year plan period (2007-2012) to focus in areas like biotechnology, nanotechnology, design, instrumentation, environment and energy. The expectation is that these centers would nurture local talent and find solutions to India's problems and lead the country towards a path of equitable and sustainable growth. India is specifically looking for US expertise and cooperation in setting up these institutions. END SUMMARY.

ASSESSMENT of the INDO US S&T FORUM

12. Dr. Ramasami, who is also the Indian Co-Chair of the IUSSTF welcomed Dr. Fedoroff (SciCouns and SCI FSN were are present) and said India looked forward to a higher level of engagement with the US in S&T and also to the operationalization of the S&T Commission. Dr. Fedoroff responded that she too wanted enhanced interaction with India and observed that before creating multiple forums for cooperation, the two sides should learn from the experiences of existing entities like the IUSSTF. Dr. Fedoroff further added that as the Nominal Co-Chair of the IUSSTF, she was keen to have the Indian view of the Forum. Dr. Ramasami replied that the IUSSTF was working well for the level of funds committed to it. The Forum facilitates many useful interactions between Indian and US scientists and academicians, through supporting workshops and conferences and, especially, providing fast and efficient travel support to the participants. He also noted that most bilateral programs with other countries were handled by the government

agencies in India. Only in the case of US and France the interactions are handled by autonomous bodies like the IUSSTF.

- ¶3. The IUSSTF is a vehicle to attract experts, including Nobel laureates from USA, to visit India, motivate researchers and initiate new activities in India. Further, the GOI has leveraged these interactions through IUSSTF to fund 25 fellowships to the US to be administered by the IUSSTF. GOI has also provided additional funds towards the operation of the IUSSTF and enabled travel for many young Indian researchers to the USA. Thus the forum is serving a useful purpose as envisaged when it was launched to be an enabler of dialog between scientists and engineers of the two countries. However, with its limited mandate, it will be difficult to expect more out of the Forum.
- 14. Dr. Ramasami commented that the high level governing body set up for the IUSSTF by both India and US clearly conveyed the great importance the two countries place on it. However, for the limited scope of activities of the IUSSTF, it was indeed an inefficient use and gross under utilization of the board member's time and expertise. This also explains the lack of attendance of some the non-government board members at the IUSSTF annual meetings. In view of this, a broader mandate and higher level of funding for the new S&T Commission would meet the expectations of a higher level of cooperation and strategic partnership as desired by the two countries. Further, this would also make it more attractive to industry to fund collaborative research in areas of mutual interest. Dr. Fedoroff added that since USG agencies control their funding, she would look into the feasibility of these agencies participating in the activities of the S&T Commission.

GOI'S AGGRESSIVE PLANS FOR CREATION OF HIGHER EDUCATION

CENTRES OF EXCELLENCE AND CAPACITY BUILDING

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- 15. Describing India's future plans for investments in S&T, Dr. Ramasami stated that for the first time in its history, the country is in a position to plan and provide sufficient funds with a long term perspective of 15 to 25 years. For example, India has tripled the S&T budget outlay from USD 5.9 billion in the tenth plan period (2001-2006) to USD 18.5 billion in the eleventh plan period (2007-2012). In addition, GOI has allocated nearly USD 3.5 billion, a five-fold increase from present levels, to higher education. These initiatives are expected to be implemented with the cooperation of multiple agencies. Some of the key agencies involved include the DST, Department of Biotechnology (DBT), Council for Scientific Industrial Research (CSIR), Department of Information Technology (DIT) under the Ministry of Information & Communication and the Ministry of Human Resources Development (MHRD). This funding is directed towards capacity building for accelerated growth and to create centers of excellence. (Note: It should be mentioned here that on 28 March 2008, MHRD Minister Arjun Singh announced the creation of four new Indian Institutes of Technology (IIT) and six new Indian Institutes of Management (IIM). This is in addition to the four new IITs announced last year. End Note.)
- 16. Dr. Ramasami said India especially looks forward to the US, a global leader in creating world class S&T R&D institutions, to help India. India would like US experts to be involved in setting up and running of centers of excellence in various areas like biotechnology, nanotechnology, design, instrumentation, environment and energy. Dr. Fedoroff responded that she would be glad to facilitate such an interaction. Further, she added that the US was holding a Global Conference of University Presidents in late April, 2008, to feature successful modalities of university-university cooperation around the globe, as well as leveraging advances in information and communication technology (ICT). She noted that members of India's academic and scientific community would be invited to the meeting.

- 17. Regarding the shortage of trained personnel in S&T and a large number of engineers and scientist taking up corporate jobs, Dr. Ramasami mentioned steps GOI is taking to stem this tide and attract more students to S&T R&D. GOI has realized that mere allocation of resources for R&D is not sufficient as there aren't enough qualified takers for R&D project grants. Hence the key to growth in S&T was not just allocation of financial resources but actually mobilizing human resources and making R&D in S&T an attractive career option. Dr. Fedoroff agreed and said that all nations were facing similar challenges.
- 18. New schemes to motivate and attract students right from school towards science and research have been initiated. They include:
- Providing thought-provoking science experimental kits worth USD 125 (each) to one million children in the age group of 10-15, to awaken their curiosity and creative abilities and get motivated to study science and engineering.
- A program called "The Innovation in Science Pursuit for Inspired Research"(INSPIRE), which would provide 5 year scholarships for 10,000 students when they graduate from grade X.
- "Scheme for Early Attraction of Talent for Science" (SEATS) in grade XII that will assure careers in science for at least 500 talented students per year.

INDIA ASPIRES TO BE A GLOBAL TECHNOLOGY LEADER

19. Dr. Ramasami further elaborated that all the new initiatives including funding for advanced infrastructure and capacity expansion in existing universities and R&D labs, enhanced government funding for R&D, the creation of new centers of excellence, schemes for innovation and entrepreneurship and the 'catch them young policy' for S&T R&D are geared towards fostering technology leadership and

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self sufficiency in several niche areas. He further hoped that by the time the 'catch them young policy' participants evolve themselves as researchers and innovators, existing and new institutions would have fully geared up to engage them gainfully. This will help propel India to a position of technological leadership as it targets its evolution to become a developed nation by 2020.

- 110. Dr. Ramasami added that India would also welcome joint Indo-US advanced research centers in areas of mutual interest and India's participation in existing/planned centers of excellence in the US. Dr. Fedoroff said she would follow up in areas of mutual interest and expressed her appreciation to Dr. Ramasami for his review of the various facets of planning and implementation that the GOI is undertaking for S&T growth in India.
- ¶11. This cable has been cleared by Dr. Fedoroff.

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